

Obsessively, Relentlessly
**At Your
Service**



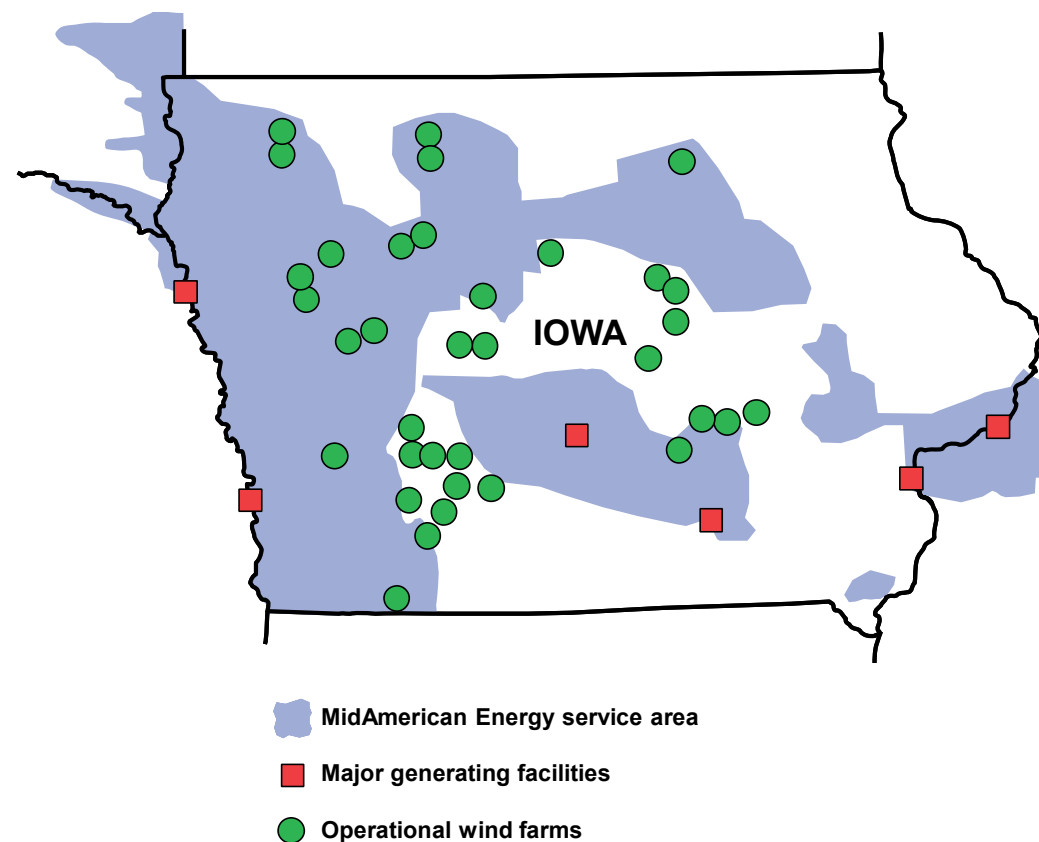
Iowa Homeland Security Conference Grid Operation and Event Response

October 13, 2022





MidAmerican Energy Company Overview



- Headquartered in Des Moines, Iowa
- 3,400 employees
- 1.6 million electric and natural gas customers in four Midwestern states
- Major electric load centers in the Iowa service territory are the Quad Cities, Iowa City, Waterloo, Des Moines, Fort Dodge, Council Bluffs, Sioux City, and surrounding areas.
- MidAmerican is a part of the MISO Regional Transmission Organization (RTO).



Storm Preparedness and Response

- State-of-the-art incident command center in Des Moines
- Local and remote storm centers; fleet of four mobile storm response trailers to improve access to materials for crews, no matter where impacts occur
- Expanding use of drones to assess storm damage
- Implemented employee storm role program for groups outside of electric delivery, including employee training on specific support functions provided annually





Outage Communications

- Storm Outage Notifications
 - Able to define storm areas (storm Estimated Time to Restoration) vs. normal operations areas (normal Estimated Time to Restoration process)
 - Proactive updates to affected customers in storm area (8:00am, 2:00pm, 8:00pm)
- Direct email notifications and updates and proactive text updates with enrollment (>90% of customers)
- *Who to Call* information and safety provided in key messages
- Radio, television and online/digital, live interviews, real-time advertising, website Outage Watch

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OUTAGE UPDATE

Thank you for your patience while our crews continue working to restore weather-related outages. Below is the most recent update about service interruptions in this area:

Address Number(s):	1229
Start Time:	12:15 pm 11/18/2020
Customers Impacted:	22,420 customers
Customers Still Out:	14,680 customers
Damage Due To:	High Wind/Lightning
Estimated Time of Restoration:	6:00pm – 9:00pm 11/19/2020

**Denotes a change*

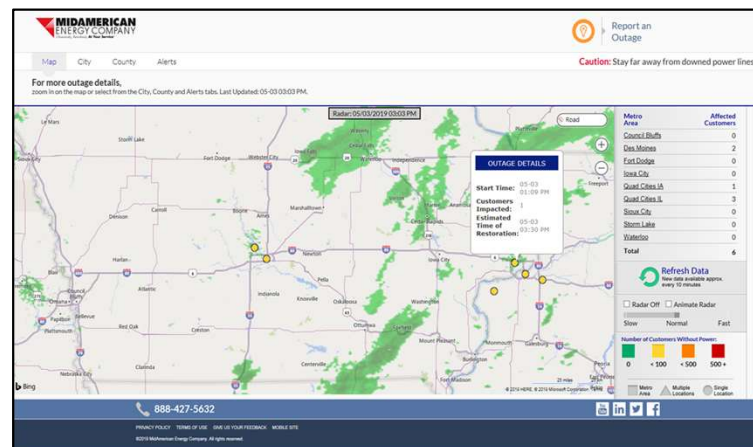
We will continue to provide updates as they become available.

We're working to restore service as safely and efficiently as possible. Stay away from downed power lines and anything touching the line, like a tree, fence or vehicle.

[Pause updates for this outage.](#) Updates will resume if future outages occur.

Thank you,
MidAmerican Energy

888-427-5632



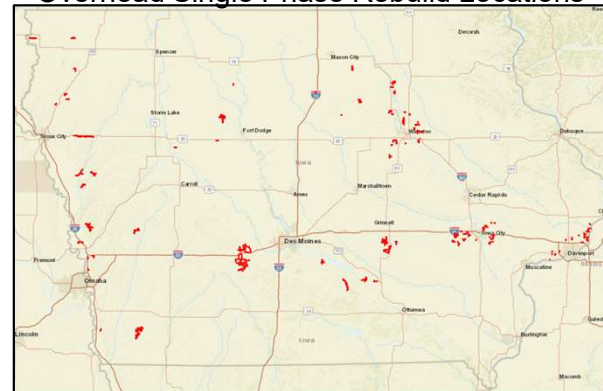


Resilience and Reliability

Storm-Hardening projects

- Single-phase Rebuilds: Since 2019, approximately 350 miles of single-phase rebuild projects have been completed to strengthen and harden the distribution system in rural areas susceptible to long outages caused by severe weather events
- Interstate Crossings: In 2022 & 2023 MEC is replacing 19 critical transmission line interstate crossings with full containment structures to prevent a similar situation that occurred in December 2021
- Rural Distribution Ties: MEC is constructing 5 rural feeder ties annually from a list of substations with no backup to an adjacent substation – addressing extended outage risk to a community for loss of transmission or substation source

Overhead Single Phase Rebuild Locations





Resilience and Reliability

Technology projects to limit outages, speed recovery

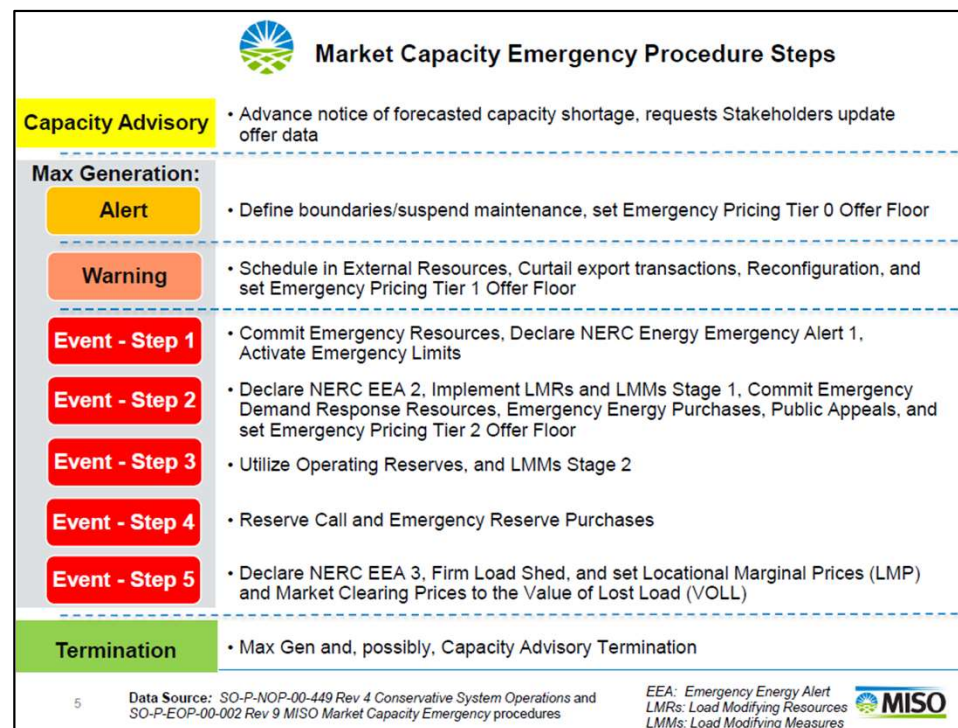
- TripSavers: Over 400 locations installed in the past five years - replace traditional line fuses with a reclosing device, avoiding temporary faults from causing sustained outages.
- Remote Capable Switches: Over 100 locations installed and commissioned since 2020 - increase visibility and allow control room operators to isolate system faults and restore affected customers more quickly
- Enhanced Wildlife Protection: Over 100 substations have been retrofitted with this specialized, custom-fitted animal protection





Capacity Preparedness and Response

- MISO and MidAmerican both have thorough plans to address energy imbalances
- Before implementing firm load curtailments, MidAmerican will initiate demand response programs for participating customers and make public appeals to conserve energy
- If the regional capacity imbalance cannot be addressed with these steps -- including emergency imports, emergency capacity ranges -- firm load curtailments may be directed by MISO





Capacity Preparedness and Response

- MidAmerican has an automated tool within its Energy Management System to implement a rolling interruption if directed by MISO
- Approximately 25% of MidAmerican load is included
- Annual review of distribution circuits to ensure circuits that serve critical infrastructure for public safety are not included
- MidAmerican system operators enter target MW load reduction amount (directed by MISO), and target duration (60 minutes default)
- Tool will interrupt distribution circuits until MW target is reached, once target duration is reached, the next group of circuits are interrupted, and the prior group are restored
- Process continues until MISO terminates the firm curtailment request
- IUB staff will be notified by email if MISO directs firm load reduction, including MW requested from MidAmerican, number of Illinois customers affected
- Affected customers will receive outage notification and estimated duration
- Additional notifications will be posted on various media outlets



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